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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,970	12/15/2003	Joseph Edward Fattori	IR 7485-00	3383
23909 7590 10/15/2007 COLGATE-PALMOLIVE COMPANY 909 RIVER ROAD PISCATAWAY, NJ 08855			EXAMINER KARLS, SHAY LYNN	
			ART UNIT 3723	PAPER NUMBER
			MAIL DATE 10/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/735,970	Applicant(s) FATTORI, JOSEPH EDWARD	
	Examiner Shay L. Karls	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6, 9, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt (USPN 3029651) in view of Beny (USPN 5253382) and further in view of Halm (USPN 5813079).

With regards to claims 1 and 19, Flatt teaches a drive system for imparting motion in a treating implement having a head (16) with treating instrument having implement elements (15). The drive system comprising a motor (not labeled) with a rotatable motor shaft (5). There is a cam (6) driven around an axis of rotation by the motor shaft. The cam has an outer surface with a closed loop cam track (8). The treating implement head (13, 16, 15) is remote from the cam and a control member (23) is disposed between the cam and the treating implement head. The control member has a control slot (24) extending therethrough. There is a pivot member (20) located between the control member and the treating implement head. The pivot member has a through hole (22') also. The

Art Unit: 3723

treating implement has a drive connection (11) mounted to the treating implement and disposed toward the pivot member. There is a drive shaft (10) having a drive end and driven end. The drive end is freely mounted in the cam and the drive shaft extends through the control slot and the through hole in the pivot member. The driven end of the drive shaft is mounted to the drive connection of the implement head (figure 1). The control slot controls the path of movement of the drive shaft whereby rotation of the cam causes the drive end to slide along the cam track in response to the location of the drive shaft in said control slot with the drive shaft pivotally moving through said pivot member as said drive end slides along said cam track while the drive shaft slidably moves in said control slot to transmit the pivotal movement of said drive shaft to said driven end and to said drive connection for moving said treating instrument.

With regards to claim 2, the control slot is a straight linear shape (figure 4).

With regards to claim 3, the cam track is circular (figure 5).

With regards to claim 6, the control slot extends radially from the axis of rotation (figure 4).

With regards to claim 9, the cam track does not extend beyond the axis of rotation (figure 5).

With regards to claim 12, the treating implement is a toothbrush, where the head is a cleaning head having an outer surface with cleaning elements (15) extending outwardly from the outer surface.

With regards to claim 13, the control slot is a straight linear shape parallel to the outer surface of the head. Platt's control slot is set up in the same orientation with respect to the head as the applicant's control slot however, examiner believes it should read perpendicular rather than parallel.

With regards to claim 14, the cam track is circular (figure 5).

With regards to claim 15, the pivot member is a thin plate and the control member is a thin disk (figure 4 and figure 5).

With regards to claim 16, the control slot extends radially from the axis of rotation and the cam track does not extend beyond the axis of rotation (figure 4 and 5).

With regards to claim 17, the head is oscillated back and forth over a range of motion no greater than 30 degrees with respect to the axis of rotation as shown by the dashed lines in figure 1.

With regards to claim 18, the drive system is of straight linear shape, which is non-parallel to the outer surface of the head (figure 1). The dashed lines in figure 1 shows how the system is straight and non-parallel to the outer surface of the head.

Flatt teaches all the essential elements of the claimed invention however fails to teach that the closed loop cam track has an inner wall and an outer wall and that the drive end slides along the inner and outer wall of the cam track (claim 1 and 19). Flatt also fails to teach a treating implement head having a treating instrument that is separately moveable from the head (claim 1 and 19). Flatt fails to teach that the drive connection of the implement head causes the treating instrument to move, independent of the head (claim 1 and 19). Flatt additionally fails to teach that the treating instrument is rotatably mounted to the head (claim 19) and that it moves in an oscillatory, rotational movement (claim 20).

Beny teaches a toothbrush comprising a cam track (38; figure 5) that comprise an inner wall (not labeled but best shown in figure 5 as reference number 50) and an outer wall (40) that forms a closed loop track (64). There is a cam follower (68) that comprises a drive end (66) for sliding along the inner and outer wall of the cam track (figure 11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cam track of Flatt so that it comprises an inner and outer wall as taught by Beny since both types of cam tracks are equivalent structures known in the art for transferring motion to a drive element. Further the claim would have been obvious because the substitution of one known element for another would have yielded the

Art Unit: 3723

predictable result of imparting motion to a treating instrument to one of ordinary skill in the art at the time of the invention.

Halm teaches a toothbrush head (12) comprising a treating instrument (13) that is separately moveable from the head (figure 1E). The instrument oscillates and rotates about pivot point 26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Flatt's treating implement head with a treating instrument that moves independently of the head as taught by Halm because it would accommodate itself better to the shape of the teeth.

Additionally, it provides a much more gentle brushing action, reducing the likelihood of injury to the gums of the user (col, 1, lines 59-65). It would have been an obvious modification to one of skill in the art to replace the head of Flatt for the head of Halm by simply modifying the neck portion of Halm with a threaded end so that it could be attached to Flatt's invention.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Lev et al. (USPN 6895625).

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fail to teach that the cam track is non-circular such as oval. Beny and Lev teaches a cam track (114) that is oval shaped. A cam (106, 108) fit within the cam track and follow the path provided by the track. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the track of Flatt in view of Beny and Halm so that it is oval shaped as taught by Beny or Lev since the oval shaped track will allow for a broader range of movement and speed for the treating implement. Using an oval track will vary the linear reciprocating motion of the treating implement.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Stemme (USPN 3538530).

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fail to teach that the control slot is non-straight or arcuate. Stemme teaches a toothbrush with a control member having an arcuate shaped control slot (figure 3 and 4). It would have been obvious to modify Flatt's control slot so that it was non-linear or arcuate as taught by Stemme since the arcuate shape leads to a figure eight motion. The figure eight motion will allow the bristles to move from one gum over the teeth towards the other gum, only to thereupon reverse their movement. This is the brushing motion that is preferred by dentist for properly cleaning teeth (col. 3, lines 60-71).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Prineppi (PGPub 2003/0066145).

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fails to teach that the driven end of the drive shaft comprises a ball joint. Flatt teaches that the driven end is attached to the head by a threaded connections (13, 14). Prineppi teaches a toothbrush with a drive shaft (14) having a ball joint (21) located on the driven end. The ball joint fits within a slot on the head. It would have been obvious to modify Flatt's driven end of the drive shaft to have a ball joint and to modify the head to have a slot as taught by Prineppi so that the driven end can be connected to the head quickly and securely. Additionally, by using a ball joint wear is minimized between the driven end of the drive shaft and a slot in the toothbrush head ([0026]).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Stoltz (USPN 4149291).

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fails to teach a flexible bearing located in the through hole of the pivot member. Flatt's pivot member comprises a plate with hole, which receives the drive shaft. The drive shaft is secured within the hole by means of a pin. Stoltz teaches a vibrating toothbrush head with a pivot member comprising a flexible bearing (5). It would have been obvious to one of ordinary skill in the art to modify Flatt's pivot member with flexible bearing in the opening as taught by Stoltz so that all the axial forces from the drive shaft are picked up so that the cam and is not axially loaded (col. 2, lines 22-23). Additionally, the bearing help to lock the drive shaft in place so that it cannot turn axially when in use (col. 2, lines 24-26). Lastly the bearing will act as a gasket and prevent liquids from entering the handle portion.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

The applicant amended the claims to include the limitation that the close loop cam track has an inner wall and an outer wall and that the drive end slides along the inner and outer wall of the cam track. While Flatt teaches a cam track with an inner and outer wall (outer portion of 6 is outer wall and inner surface of 8 is inner wall), the drive end fails to slide along both the inner and outer wall. The drive end of Flatt only slides along the inner wall. Therefore further search was necessary to meet the new claim limitations and the Beny reference was found to meet the new limitations. Beny teaches a cam with a closed loop track that has an inner and outer wall, wherein a drive pin (cam follower) slides along the inner and outer wall. Therefore since the cams of Flatt and Beny are

Art Unit: 3723

equivalent motion translators known in the art and both cams are considered to be closed loop tracks capable of receiving and driving a cam follower, it would have been obvious to modify the closed loop track of Flatt so that it comprises an inner and outer wall as taught by Beny since substitution of equivalent elements is well known in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Karls whose telephone number is 571-272-1268. The examiner can normally be reached on 7:00-4:30 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Shay L Karls
Patent Examiner
Art Unit 3723